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**PATENT SPECIFICATION** (21) **35,196/68**

Class (52) 58.1.

Int. Cl. (51) F16g.

Application Number (21) 35196/68.  
Lodged (22) 19th March, 1968.

Complete Specification  
entitled (54) CABLE STRAP.

Lodged (23) 19th March, 1968.  
Accepted (44) Lapsed under Section 47c(b).  
Published (41) 25th September, 1969.

Convention Priority (30) 25th April, 1967, West Germany, 1967 769 No. J.16402/21 c  
Gbm.

Applicant (71) ILLINOIS TOOL WORKS INC.

Actual Inventor (72) WILHELM KLAUS WIGAM.

Related Art (56)

The following statement is a full description of this invention, including the best method of performing it known to us:

35,196 /68

This invention relates to a cable strap of flexible synthetic plastic material, and it refers particularly to a cable strap of the type having a toothed or serrated strap portion and, at one end thereof, a clasp portion adapted to accommodate such strap portion and having locking means for engagement with the teeth of the strap portion.

It has been proposed to provide cable straps of this general type having in the clasp portion, a pawl which is joined with such clasp portion, at the end facing the strap by a flexible bar and having on the opposite bevelled end a transverse groove which can engage in self-locking firm connection with the teeth of the strap.

This known type of cable strap has the disadvantage that, once being locked in place, it cannot be undone without destroying it. Thus, for example, whenever a cable has to be changed new cable straps must also be provided.

According to this invention there is provided a cable strap of flexible synthetic plastic material having a strap portion and an integral clasp portion, the strap portion having teeth for locking engagement in the clasp portion, and the clasp portion having a frame, a funnel-shaped aperture through the frame, at least one locking tooth projecting inwardly of the frame at the narrow end of the aperture to provide a narrow transverse slit for the reception of the strap portion to lock said strap relative to the clasp portion, and the clasp portion being deformable upon application of inwardly directed pressure to its opposite ends to effect release of said locking engagement.

In this specification the term 'longitudinal' is used to denote a direction from one end of the strap to the other and 'transverse' is used to denote a direction at right angles to longitudinal in the general plane of the strap.

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35196/68

Preferably, the strap portion has teeth on both its opposite sides and the frame of the clasp portion has at least two locking teeth in opposed relationship, and the teeth on one side of the strap portion are offset longitudinally relative to the teeth on the other side.

If it is desired to remove the strap portion from the clasp section, this can be done simply by exerting pressure on the two narrow sides of the clasp section, for example by seizing the clasp portion between thumb and index finger and compressing it in the direction of its transverse axis. This causes an elastic widening out of the frame which in turn results in an enlargement of the narrow slit formed by the locking teeth. When this slit is wide enough, the locking teeth release the strap teeth and the strap can be withdrawn.

The invention is explained in greater detail hereunder with reference to the accompanying drawings which illustrate one embodiment. In these drawings:

Fig. 1 is a top plan view of a cable strap according to the invention, and

Fig. 2 is a longitudinal section through the cable strap of Fig. 1.

The cable strap illustrated has a toothed strap portion 1 having at one end a clasp portion 5 with a funnel-shaped aperture 4 into which can be inserted the other, tapered, end 3 of the strap portion 1.

The clasp portion 5 has a rounded frame which is of greater length in the transverse direction than in the longitudinal direction, and of somewhat elliptical shape, with a funnel-shaped aperture 4 through it. At about the bottom of the aperture 4 are two opposed, inwardly directed locking teeth 7 and 8 of such dimensions as to provide a narrow transverse slit 6 between them.

As shown in Fig. 2, the strap portion 1 has teeth 2a and 2b on its opposite sides, so arranged that when the strap portion is inserted into the aperture 4 and fed through the slit 6 the locking teeth 7, 8 engage said teeth of the strap portion 1. The teeth 2a, 2b of the strap portion are offset in a longitudinal direction by one half a tooth interval with respect to each other. This enables a relatively fine adjustment to be made in the effective length of the strap when it is used to fasten a cable in position, without reducing the tooth interval and/or the size of the teeth.

In an alternative form of the invention, not illustrated, the teeth 2a, 2b are not offset and thus both locking teeth 7, 8 engage the teeth 2a, 2b of the strap portion at the one time. This provides for a stronger anchoring effect.

In order to release the strap portion 1 inserted into the clasp portion 5 inwardly directed pressure is exerted on the opposite rounded sides of the clasp portion 5, so as to cause the clasp portion 5 to expand longitudinally and thereby open the slit 6 between the two locking teeth 7 and 8. That will enable the strap portion 1 to be withdrawn.

It is to be realised that there may be made modifications in details of design and construction without departing from the ambit of the invention as defined by the appended claims.

351 96 /68

The Claims defining the invention are as follows:

1. A cable strap of flexible synthetic plastic material having a strap portion and an integral clasp portion, the strap portion having teeth for locking engagement in the clasp portion, and the clasp portion having a frame, a funnel-shaped aperture through the frame, at least one locking tooth projecting inwardly of the frame at the narrow end of the aperture to provide a narrow transverse slit for the reception of the strap portion, the locking tooth or teeth being adapted to engage the teeth of the strap portion to lock said strap relative to the clasp portion, and the clasp portion being deformable upon application of inwardly directed pressure to its opposite ends to effect release of said locking engagement.

[25th April 1967]

2. A cable strap as claimed in Claim 1 wherein the strap portion has teeth on both its opposite sides and the frame of the clasp portion has at least two locking teeth in opposed relationship.

[25th April 1967]

3. A cable strap as claimed in Claim 2 wherein the teeth on one side of the strap portion are offset longitudinally relative to the teeth on the other side. [25th April 1967]

4. A cable strap as claimed in any one of Claims 1 to 3 wherein the transverse dimension of the clasp portion is greater than its longitudinal dimensions. [25th April 1967]

5. A cable strap as claimed in any one of Claims 1 to 4 wherein the frame and the aperture therein are of somewhat elliptical shape.

[25th April 1967]

6. A cable strap substantially as herein described with reference to the drawings.

[25th April 1967]

D A T E D this 18th day of March, 1968.

ILLINOIS TOOL WORKS INC.  
by its patent attorneys

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Illinois  
Tool

35,196 / 68

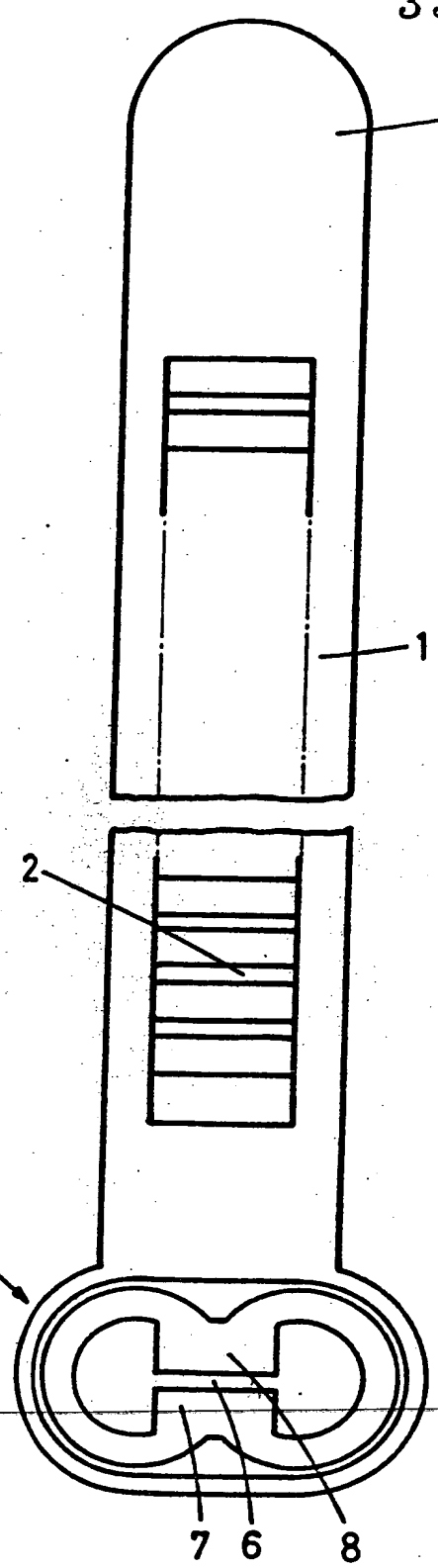


Fig. 1

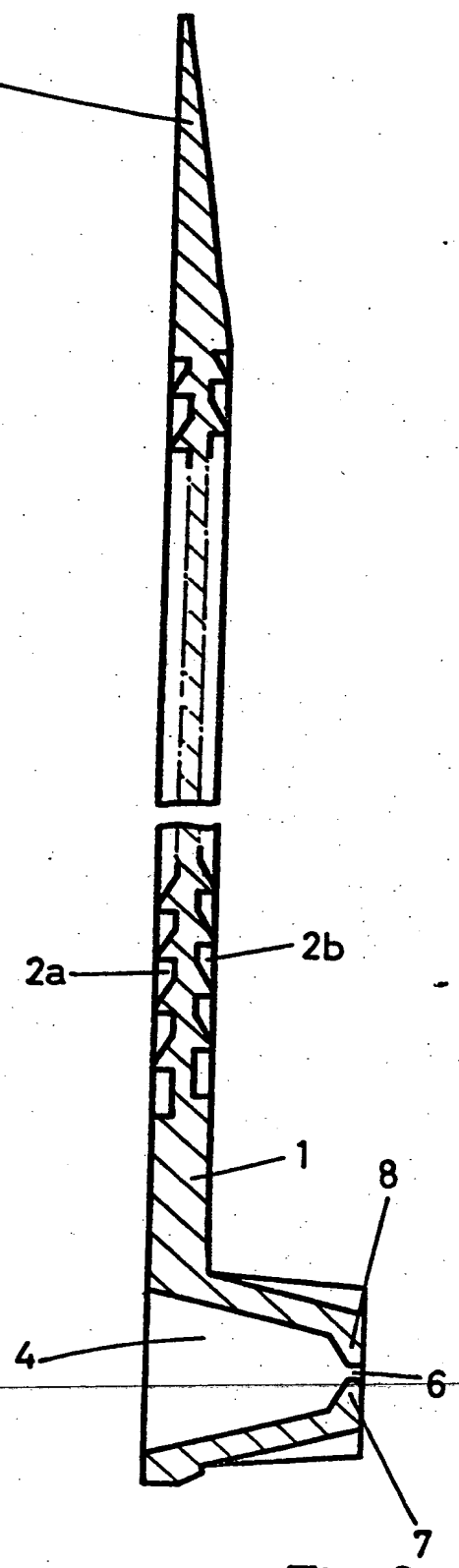


Fig. 2

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